IEEE-1394 OHCI Boards

Part of Mindready's IEEE-1394 industrial grade offering, the host controller interfaces based on the 1394 PCI feature Texas Instruments OHCI Link Layers and form factor Physical Layers enabling high-speed access to the 1394 serial bus.
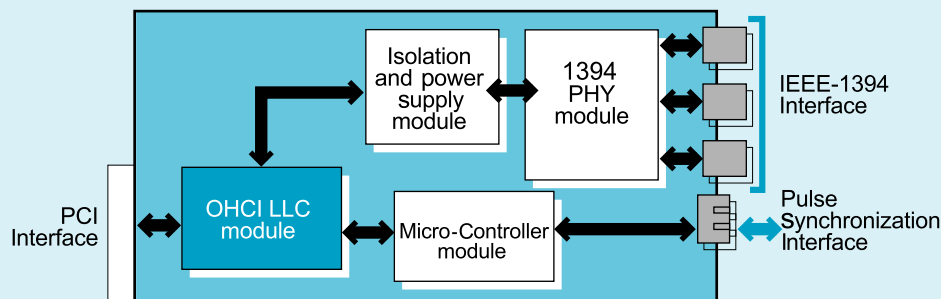
Solutions

Mindready supports four different industrial PCI family form factors: PCI, Compact PCI, PMC and PC/104-Plus. Special features are added on top of the OHCI link layer to enhance functionalities that are well suited for embedded or customized solutions based on IEEE-1394 form factors.

The OHCI boards are electrically isolated by a galvanic barrier between the Link Layer and the Physical Layer. The Physical Layer is powered by a DC/DC converter and isolated from the host's electrical domain. Both isolations ensure unmatched robustness for the boards. You can optionally remove this isolation and power the bus through an external connector.

A discrete timer is set on all boards so developers can manage and choose the rate of isochronous cycles. In addition, the PCI, PMC and Compact PCI boards are equipped with a special connector to synchronize the generation of isochronous cycles between 1394 buses.

Features

▶ Interconnect 1394.a OHCI, PCI, CompactPCI, PMC and PC/104-Plus systems without restrictions

▶ Full real-time synchronization between all attached devices

▶ 400 Mbps communication speed

▶ Asynchronous and isochronous data transfer supported

▶ Fully programmable isochronous cycle time

▶ Powerful real-time communication API

▶ Point-to-point, daisy chain or tree topologies, no cabling restrictions

▶ Runs with SedNet™, SedNet*Pro, and the Microsoft 1394 Stack

▶ Compatible with VxWorks and other main RTOS

▶ Boards are galvanically isolated (optionally removable)

IEEE-1394 Interface

▶ IEEE-1394.a compliant

▶ Three IEEE-1394 six-pin connectors, including power distribution protected by Polyswitch resettable fuses

▶ Texas Instruments OHCI chipsets

▶ Full galvanic isolation between the Physical and Link Layer controllers with a DC/DC converter

▶ DC/DC converter supplies 5W and can optionally be configured for 15W (PCI and CPCI only)

▶ Self-powered and power provider for the IEEE-1394 bus (PCI and CPCI only)

PCI Interface

▶ Ejector included for 3U CPCI adapter; optional 6U front panel available

▶ PCI Power Management Compliant

▶ IEEE-1394 Open Host Controller Interface (OHCI) Link Layer

▶ PCI burst transfer supported

▶ DMA transfer and interrupt supported

▶ 3Vcc and 5Vcc PCI bus compatible (PC/104-Plus only)

Synchronization Interface For PCI, PMC and CPCI Adapters

▶ Programmable hardware timer provides the isochronous cycles for the OHCI interface

▶ RS-422 hardware interface synchronizes external devices or other IEEE-1394 buses

Hardware Specifications

Storage Temperature	-40℃ to +85℃
Operating Temperature	0℃ to 70℃
Operating Voltages	+5Vcc ± 5% 0.1A max +3.3Vcc ± 5% 0.3 max +12Vcc ± 5% 0.1A max (without power provider on cable)
Operating Humidity	95% maximum, non-condensing For CPCI, 3U PCI interface (100 x 160mm) ejector included, optional 6U front panel available Compliant with FCC Class A and CE rules

Contact Us

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